

Multifunctional Fibers for Energy Storage in Advanced EVA Systems, Phase II

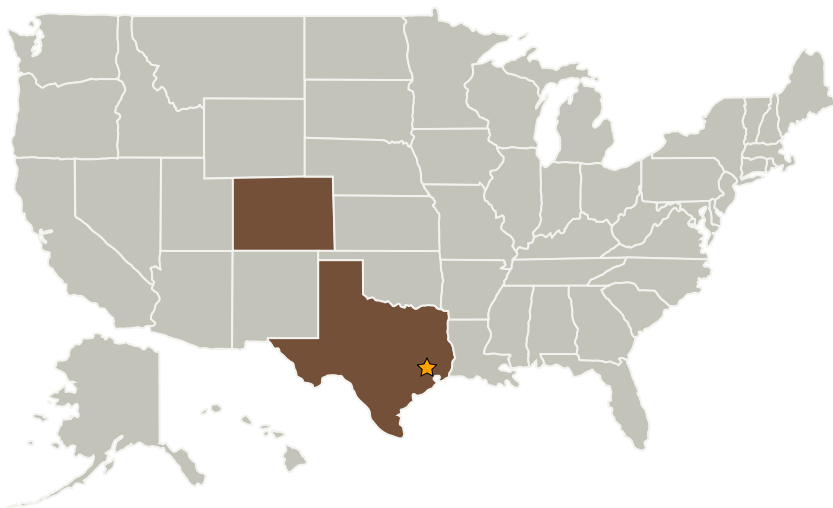
Completed Technology Project (2006 - 2008)



Project Introduction

The overall objective of the Phase II effort is to demonstrate prototype multifunctional EVA system power patches that integrate energy storage into advanced space suit systems' components (suit and pack) to increase functionality and decrease weight and volume. The program will optimize materials and plasma processes to bridge the performance gap between current fiber and planar batteries. Optimized fiber batteries will be integrated into prototypes relevant to anticipated NASA missions. Successful completion of the Phase II will lead to an engineering demonstration unit that powers a distributed sensor under conditions that are compatible with anticipated missions. Additional integrated power pack designs such as composites based on fiber batteries will be also evaluated. The lessons learned in this effort will establish guidelines for effective development and transition of future generations of MFF into EVA systems and other applications.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Johnson Space Center(JSC)	Lead Organization	NASA Center	Houston, Texas
ITN Energy Systems, Inc.	Supporting Organization	Industry Minority-Owned Business	Littleton, Colorado



Multifunctional Fibers for Energy Storage in Advanced EVA Systems, Phase II

Table of Contents

Project Introduction	1
Primary U.S. Work Locations and Key Partners	1
Organizational Responsibility	1
Project Management	2
Technology Areas	2

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Johnson Space Center (JSC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Multifunctional Fibers for Energy Storage in Advanced EVA Systems, Phase II

Completed Technology Project (2006 - 2008)



Primary U.S. Work Locations

Colorado

Texas

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX06 Human Health, Life Support, and Habitation Systems
 - └ TX06.2 Extravehicular Activity Systems
 - └ TX06.2.1 Pressure Garment